REMARKS

Applicants respectfully request reconsideration of the above-identified patent application. Claims 1-24 remain in the application. Claims 1, 2, 18, 20, 22 and 23 are amended as discussed during the recent interview to more particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claim 24 is amended to correct a typographical error. Applicants respectfully traverse the rejections as conceivably applied to the amended claims.

I.   Interview

Applicants thank Examiner Purvis for the courtesies extended to Applicants' attorney during the personal interview conducted on September 8, 2005. In the interview, proposed claim amendments were discussed in view of the applied references. In particular, amendments were presented to point out that the present invention images products directly, and identifies and labels a target portion of a product. These amendments are formally presented in this Response. Although no agreement was reached during the interview, Applicants respectfully submit that the Examiner will find all claims in condition for allowance upon full reconsideration.

II.   Invention Summary

The present invention is directed to a product labeling apparatus having a plurality of labelers, an imager for imaging products, and a processor responsive to the imager and operatively connected to a control input of each of the labelers.

As defined in amended independent claims 1, 22 and 23, the imager takes a direct

image of the products. The processor processes the image to identify a target portion of a product that is appropriate to receive a label, and controls an appropriate one of the labelers to label the target portion of the product. The ability to place labels on a target portion of a product reduces the likelihood of placing a label on an obstruction, such as the vine of a vine ripened tomato.

III.   Allowable Subject Matter

Applicants thank Examiner Purvis for the statement that claim 24 is allowed and that claims 2-10, 14, 15 and 21 are allowable if rewritten in independent form. Applicants note that claim 20 is not rejected on the basis of prior art, and therefore is assumed allowable. Claims 2 and 20 are rewritten in independent form. Applicants submit that claims 2-10, 14, 15 and 20-21 are fully allowable.

IV.   Claim Objections

Claim 17 is objected to because of an informality. It is asserted that "Applicant claims a 'stereoscopic camera,'" and that "It appears this should be 'stereoscopic camera,'" This objection is unclear to Applicants, and it appears this may be a typographical error. In view of the amendments and remarks made herein, Applicants submit that claim 17 is allowable.

V.   Non-Art Rejections

As originally filed, claim 18 was rejected under 35 U.S.C. 112, first paragraph and second paragraph. Claim 18 is amended to recite that the imager images with sound waves. Support for this amendment is found in the specification at paragraph

29 on page 9, which states that "the processor may be configured to generate a topographic image from a sonar imager." Applicants submit that a person of ordinary skill in the art would recognize that a sonar imager images with sound waves. In view of this amendment and the amendments to independent claim 1, Applicants submit that claim 18 is allowable.

VI.   Art Rejections

A.   Section 102 Rejection Based on U.S. Patent 6,349,755 to Sardo

As originally filed, claims 1, 11, 12, 16, 22 and 23 were rejected under 35 U.S.C. 102(b) as being anticipated by Sardo.

Sardo discloses a system for labeling products that includes a plurality of labelers for labeling articles A on a conveyor, a plurality of feelers 22 for tracking the shape of the articles, a camera 32, and a processor 18. As the products move under the feelers, the feelers are physically displaced, creating a profile of feelers that matches the shape of the upper surfaces of the products. The feelers are imaged by a video camera, and the image of the feeler profile is sent to a processor, which calculates the geometry of the products and moves a labeler into position to place a label on a product.

With respect to amended independent claims 1 and 23, Sardo does not disclose 1) taking a direct image of a product, 2) identifying a target portion of a product that is appropriate to receive a label, 3) tracking the target portion of a product or 4) labeling the target portion of a product. With respect to claim 22, Sardo does not disclose 1) processing an image of a product to reduce the image to a representation of a plurality

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of blobs, 2) analyzing the representation to select a target blob that is appropriate to receive a label or 3) controlling a labeler to apply a label to a target area that corresponds to the target blob. Instead of directly imaging the products, Sardo discloses taking an image of the feelers. This can have disadvantages, because the image of the feelers only approximates the surface of the products in two dimensions, height and width. In contrast, a direct image of the products can approximate the surface of the products in three dimensions, and can provide information about additional characteristics of the products, such as the location of obstructions. In addition, Sardo only discloses applying labels to the surface of products as a whole. It does not disclose identifying and tracking a target portion of a product to apply a label to the target portion of a product, for instance, to avoid applying the label in the area of an obstruction.

Because Sardo fails to disclose all of the elements of amended independent claims 1, 22 and 23 it is respectfully submitted that the rejection based on Sardo under Section 102 is unfounded and/or overcome, and therefore should be withdrawn.

B.   Section 103 Rejection Based on Sardo in View of U.S. Patent 6,645,680 to Rietheimer

As originally filed, claim 13 was rejected under 35 U.S.C. 103 as being unpatentable over Sardo in view of Rietheimer.

Rietheimer is cited for disclosing a tamping labeler. Applicants submit that Rietheimer does not supplement the above noted inadequacies of Sardo with respect

to independent claim 1, from which claim 13 depends. In particular, Rietheimer does not disclose, teach or suggest 1) taking a direct image of a product, 2) identifying a target portion of a product that is appropriate to receive a label, 3) tracking the target portion of a product or 4) labeling the target portion of a product.

Applicants therefore submit that the rejection of claim 13 under Section 103 is unfounded and/or overcome, and therefore should be withdrawn.

C.   Section 103 Rejection Based on Sardo

As originally filed, claim 17 was rejected under 35 U.S.C. 103 as being unpatentable over Sardo.

Applicants submit as noted above that Sardo does not teach or suggest independent claim 1, from which claim 17 depends. In particular, Sardo does not disclose, teach or suggest 1) taking a direct image of a product, 2) identifying a target portion of a product that is appropriate to receive a label, 3) tracking the target portion of a product or 4) labeling the target portion of a product.

Applicants therefore submit that the rejection of claim 17 under Section 103 is unfounded and/or overcome, and therefore should be withdrawn.

D.   Section 103 Rejection Based on Sardo in View of U.S. Patent 5,155,683 to Rahim

As originally filed, claims 18 and 19 were rejected under 35 U.S.C. 103 as being unpatentable over Sardo in view of Rahim.

Rahim is cited for disclosing that a camera can be interchanged with a

different type of camera or imaging system, such as a radar or sonar imager. Applicants

submit that Rahim does not supplement the above noted inadequacies with respect to

independent claim 1, from which claims 18 and 19 depend. In particular, Rahim does not

disclose, teach or suggest 1) taking a direct image of a product, 2) identifying a target

portion of a product that is appropriate to receive a label, 3) tracking the target portion of

a product or 4) labeling the target portion of a product.

Applicants therefore submit that the rejection of claims 18 and 19 under

Section 103 is unfounded and/or overcome, and therefore should be withdrawn.

E.   Dependent Claims

The dependent claims further define Applicants' invention and are

therefore even more clearly allowable than the claims discussed above. Claim 11 recites

a conveyor adapted to move the products through a field of view of the imager and past

the labeler. Claim 12 recites that the products are items of agricultural produce. Claim

16 recites that the processor is for processing an image to generate a topographic image

and to analyze the topographic image to identify topographies indicative of products and

select a high point on each product for labelling.

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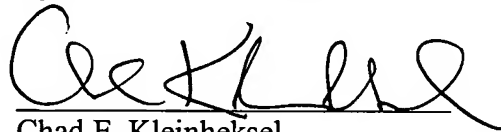Serial No. : 10/719,636
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V.   Conclusion

In view of the personal interview, the above amendments, and these remarks, Applicants respectfully submit that the present application is in condition for allowance. A notice to that effect is earnestly and respectfully requested.

Respectfully submitted,

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